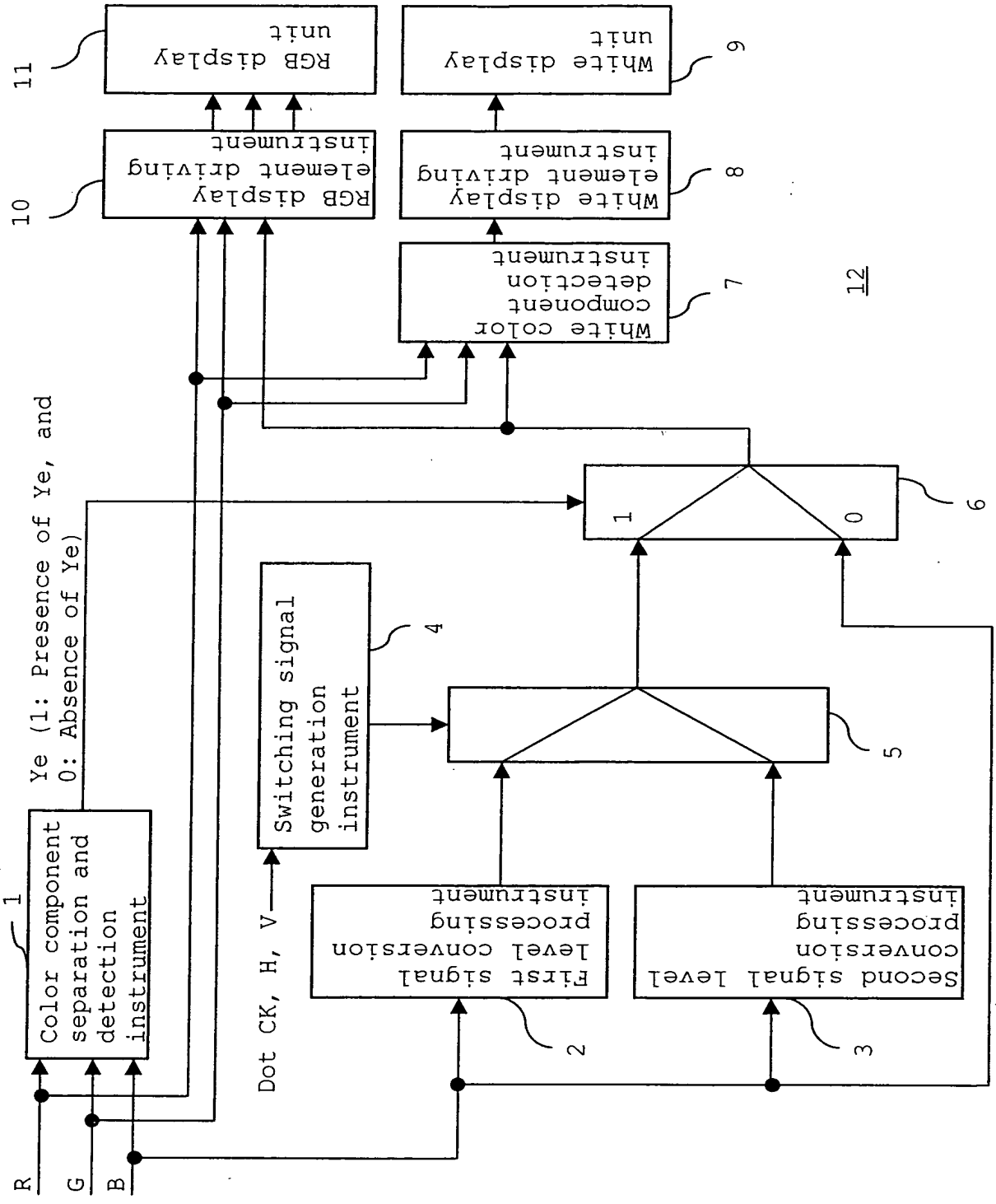

R
G
B
1
Color component separation and detection instrument
Ye (1: Presence of Ye, and 0: Absence of Ye)
Dot CK, H, V
Switching signal generation instrument
4
First signal level conversion processing instrument
2
Second signal level conversion processing instrument
3
5
1
0
6
White color component detection instrument
7
12
White display element driving instrument
8
White display unit
9
RGB display element driving instrument
10
RGB display unit
11

Fig.1

Fig.2(a)

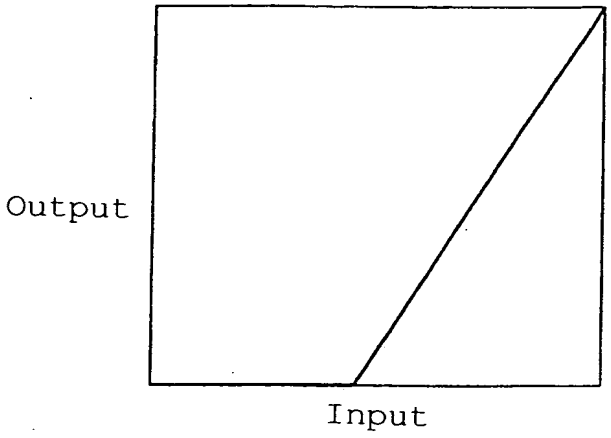


Fig.2(b)

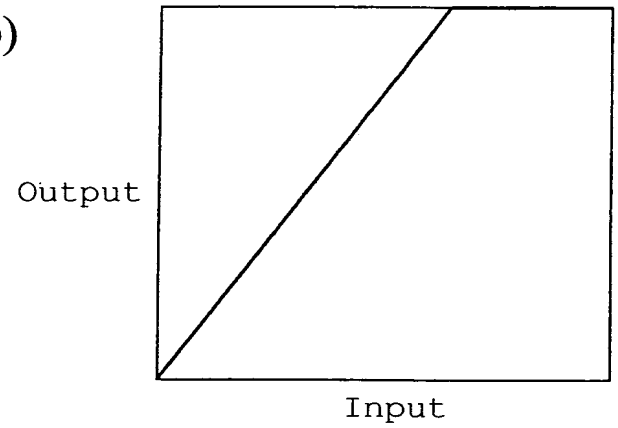
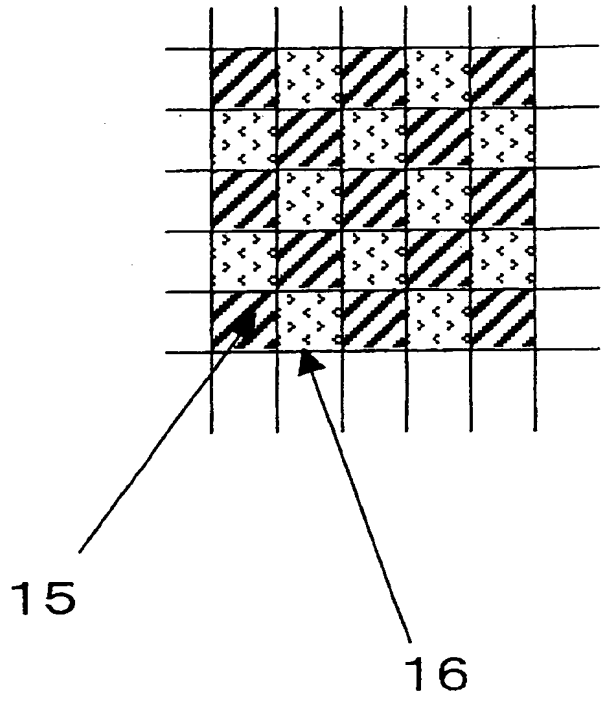


Fig.3



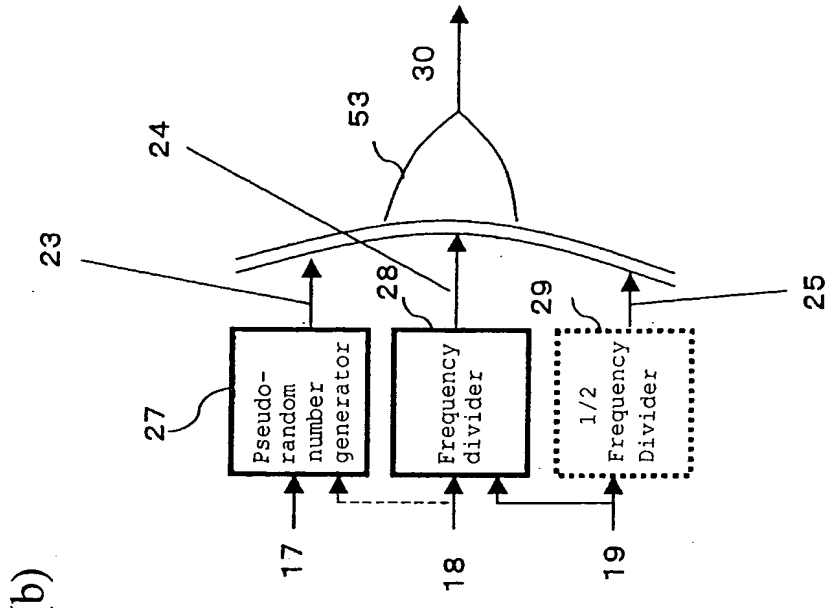

30
53
24
23
28
29
25
27
Pseudo-random number generator
Frequency divider
1/2 Frequency Divider
17
18
19

Fig.4(b)

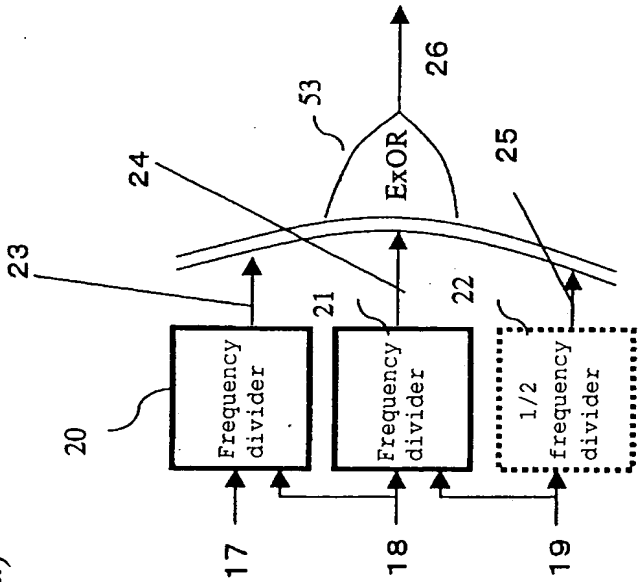
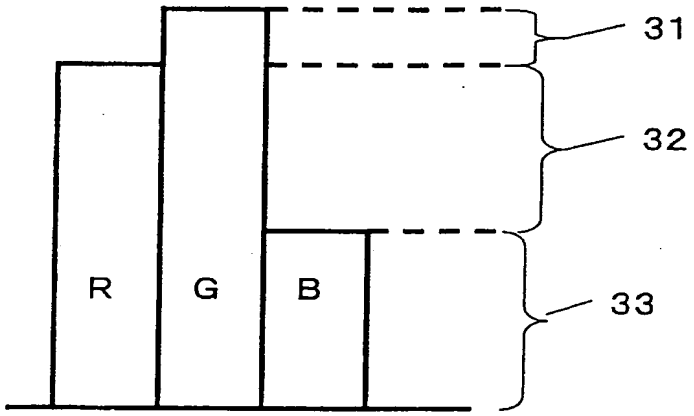

26
53
ExOR
24
25
23
21
22
20
Frequency divider
Frequency divider
1/2 frequency divider
17
18
19

Fig.4(a)

Fig.5



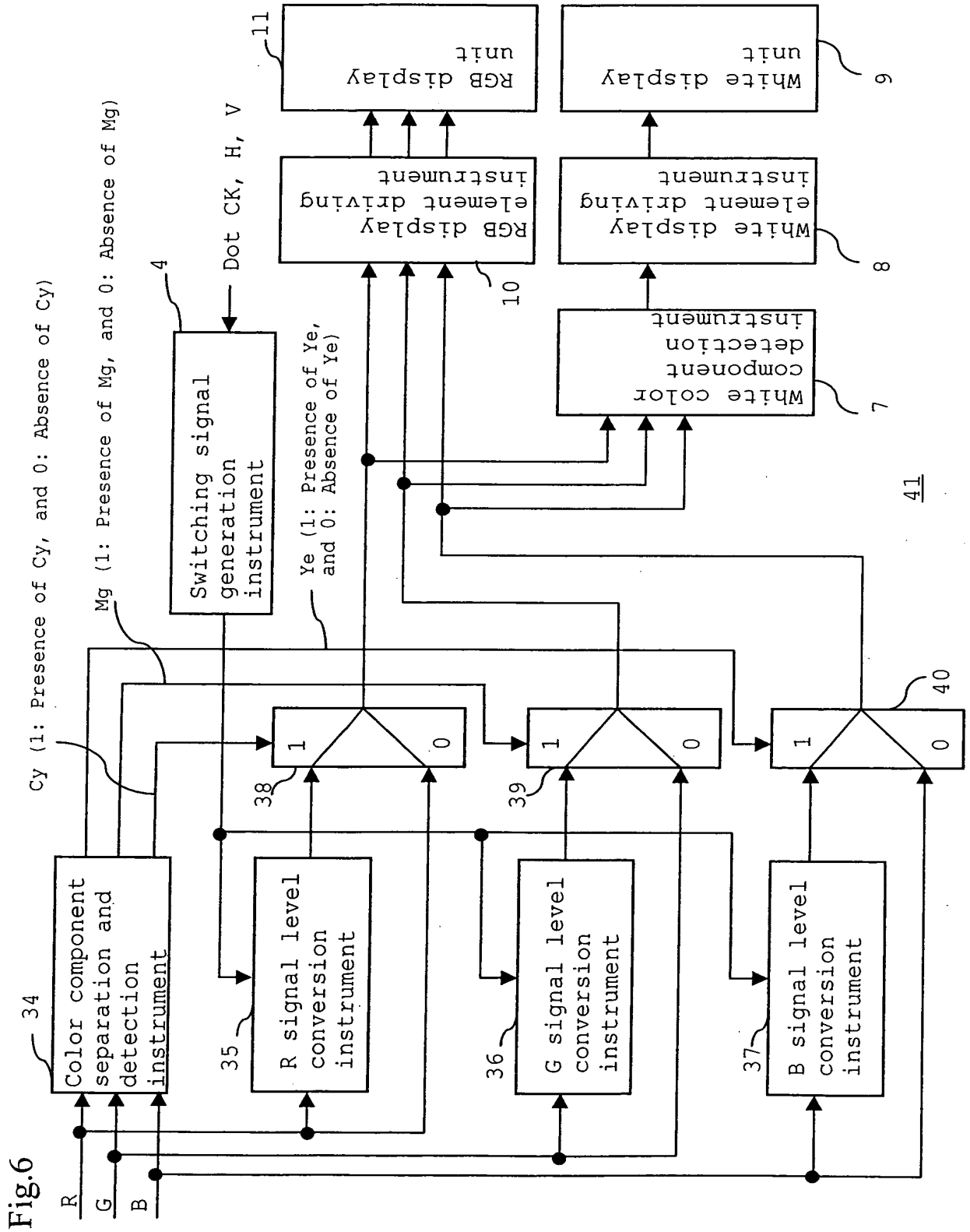

R
G
B
Color component separation and detection instrument
34
R signal level conversion instrument
35
G signal level conversion instrument
36
B signal level conversion instrument
37
Cy (1: Presence of Cy, and 0: Absence of Cy)
Mg (1: Presence of Mg, and 0: Absence of Mg)
Ye (1: Presence of Ye, and 0: Absence of Ye)
Switching signal generation instrument
4
Dot CK, H, V
1
0
38
39
40
41
White color component detection instrument
7
White display element driving instrument
8
White display unit
9
RGB display element driving instrument
10
RGB display unit
11

Fig.6

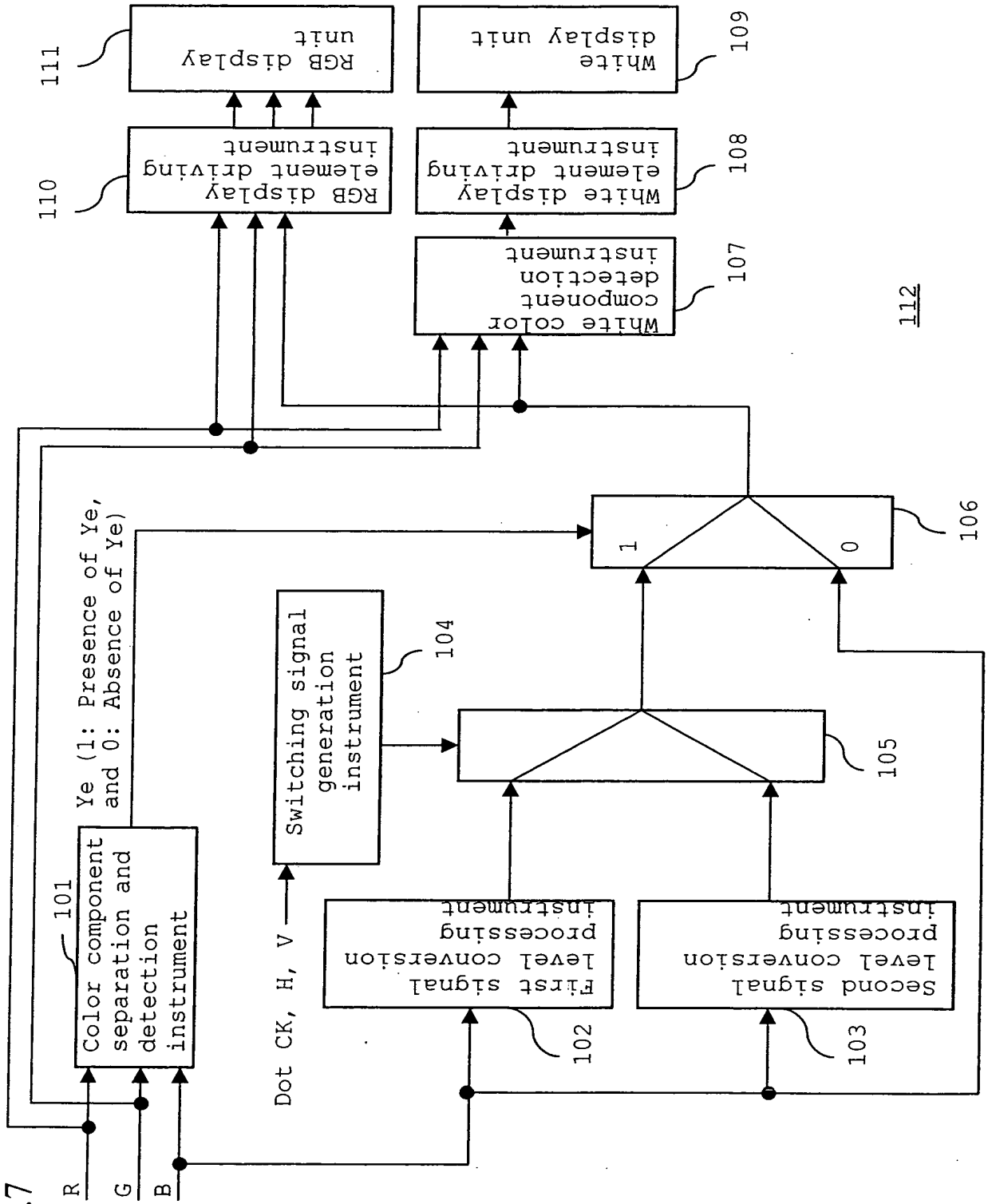

R
G
B
Color component separation and detection instrument
101
Ye (1: Presence of Ye, and 0: Absence of Ye)
Dot CK, H, V
Switching signal generation instrument
104
First signal level conversion processing instrument
102
Second signal level conversion processing instrument
103
1
0
106
105
112
White color component detection instrument
107
RGB display element driving instrument
110
White display element driving instrument
108
RGB display unit
111
White display unit
109

Fig.7

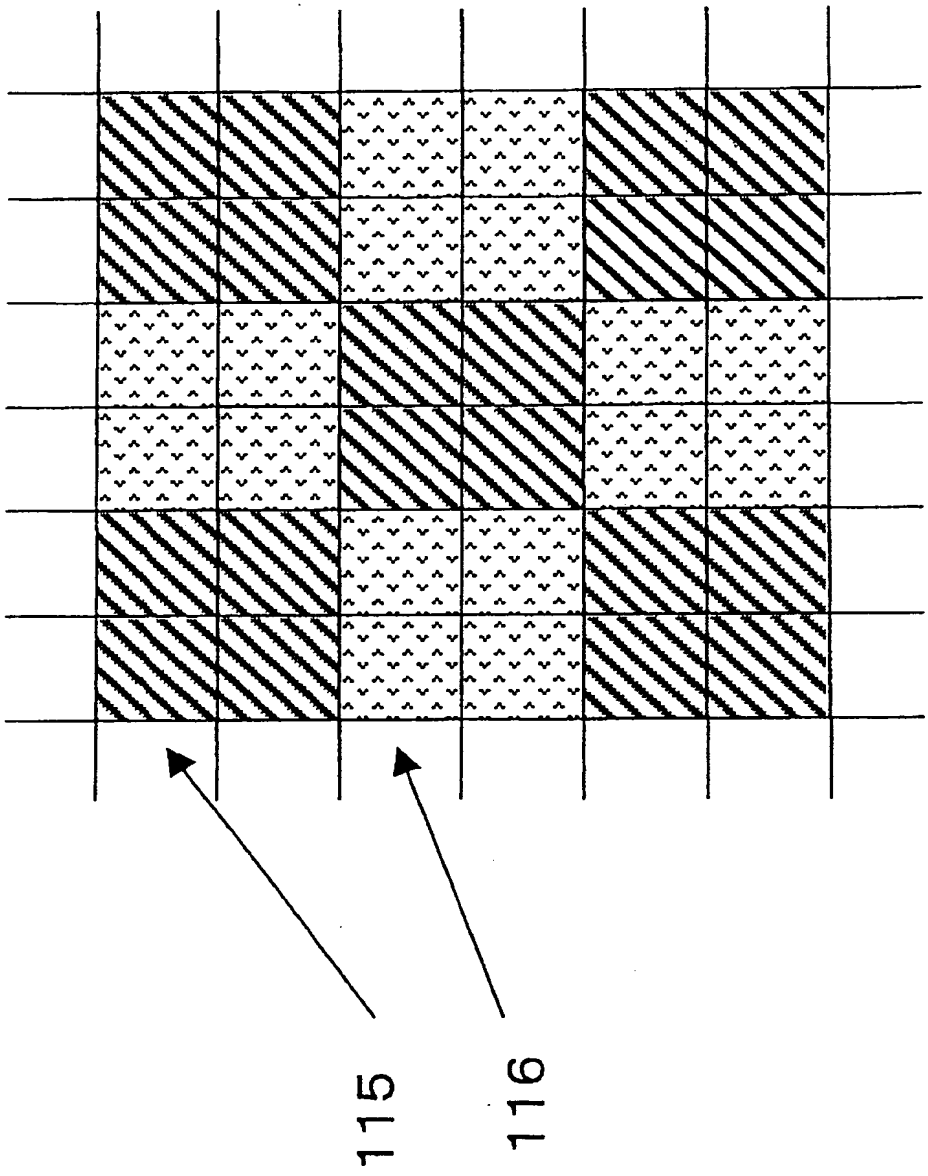


Fig.8

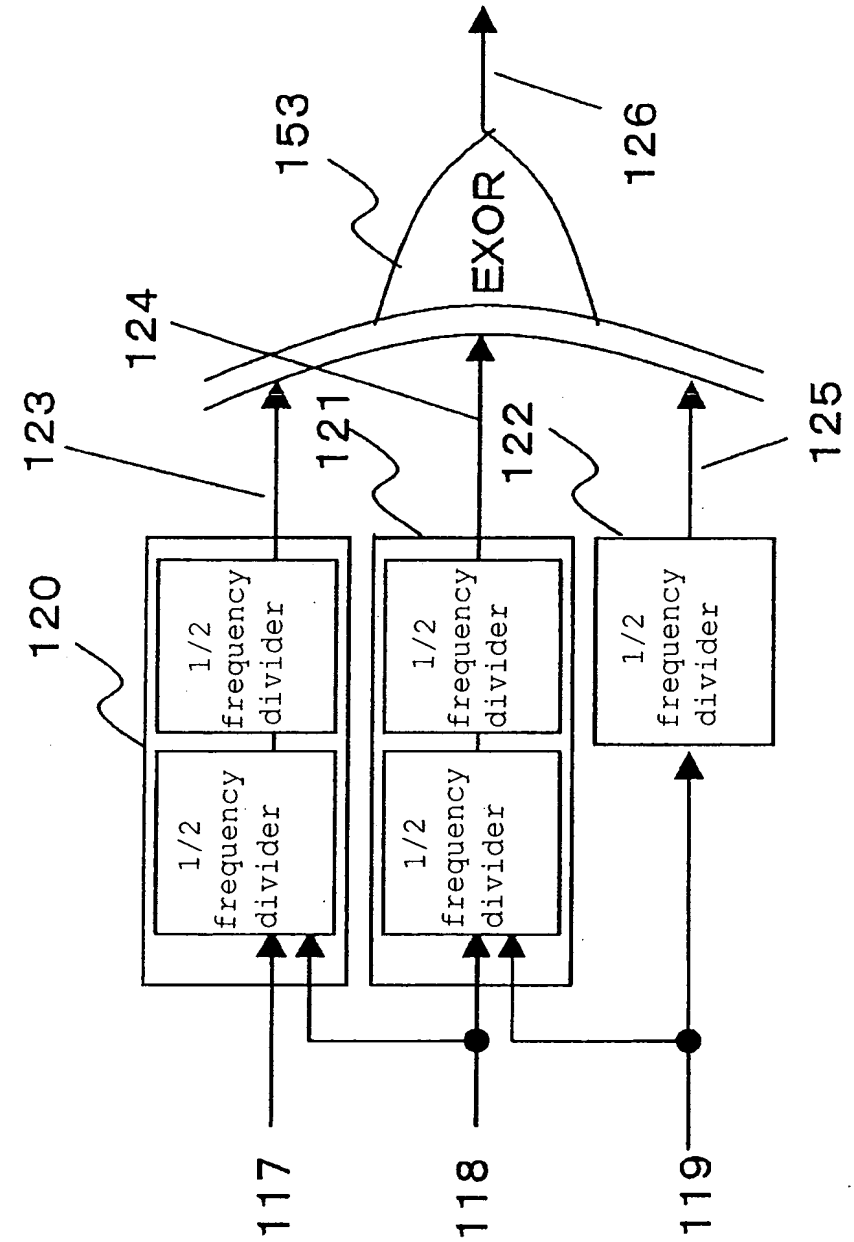
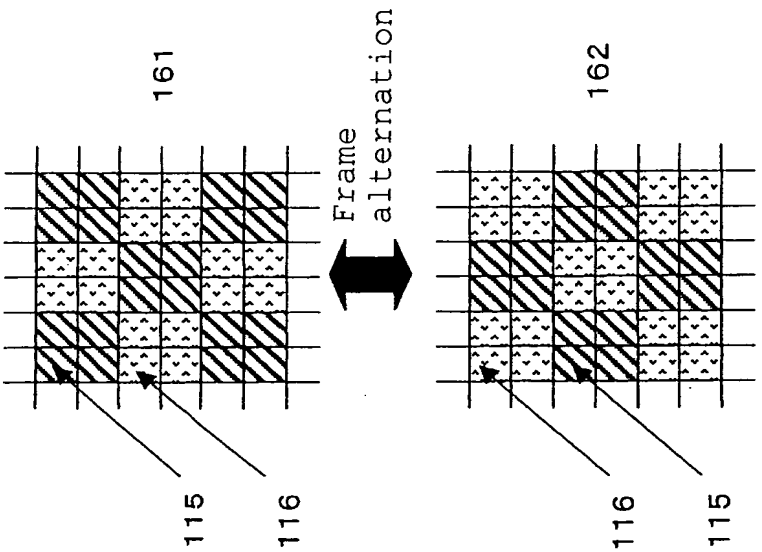

153
126
EXOR
124
123
121
122
125
120
1/2 frequency divider
1/2 frequency divider
1/2 frequency divider
1/2 frequency divider
1/2 frequency divider
117
118
119
104

Fig.9



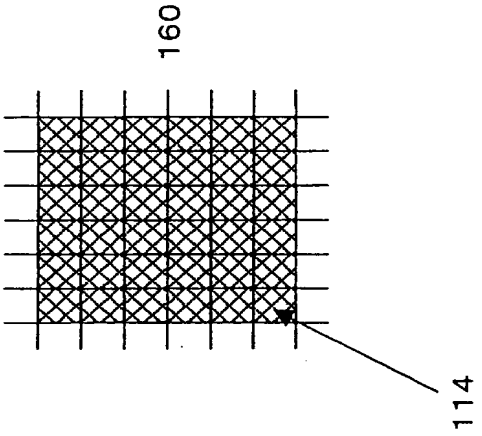
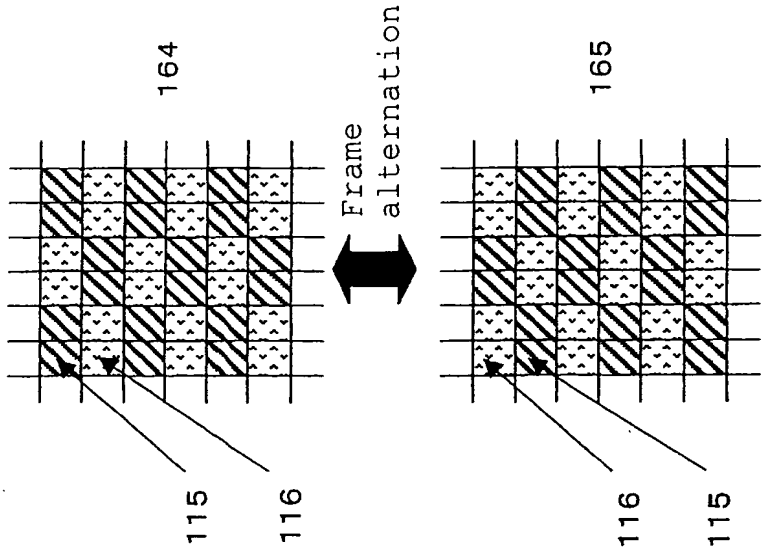


Fig.10



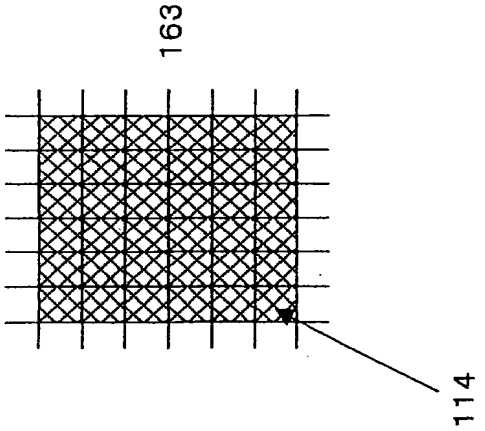


Fig.11

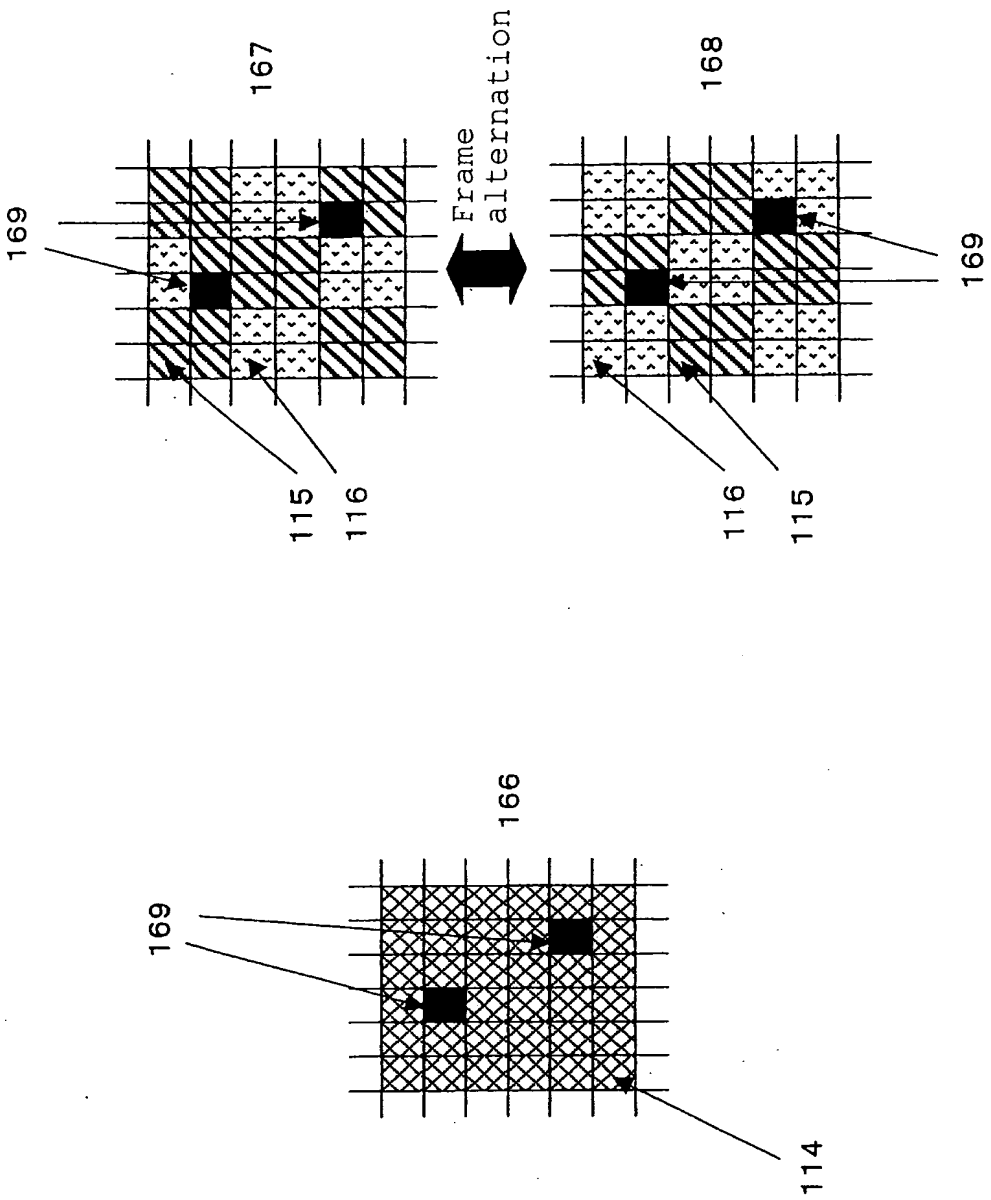


Fig.12

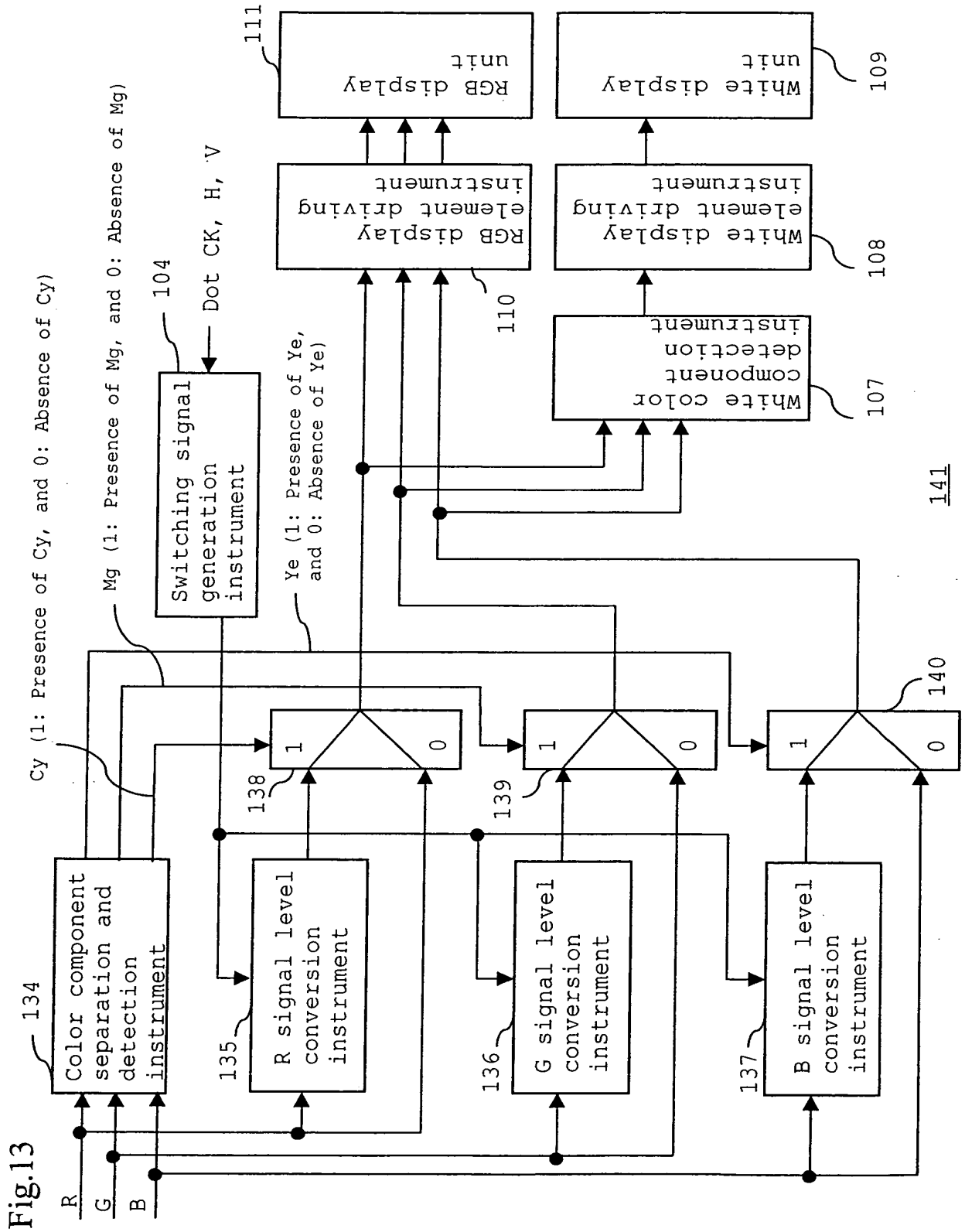

Color component separation and detection instrument
134
R
G
B
Cy (1: Presence of Cy, and 0: Absence of Cy)
Mg (1: Presence of Mg, and 0: Absence of Mg)
Ye (1: Presence of Ye, and 0: Absence of Ye)
Switching signal generation instrument
104
Dot CK, H, V
R signal level conversion instrument
135
G signal level conversion instrument
136
B signal level conversion instrument
137
1
0
138
139
140
141
RGB display element driving instrument
110
White display element driving instrument
108
White color component detection instrument
107
RGB display unit
111
White display unit
109

Fig.13

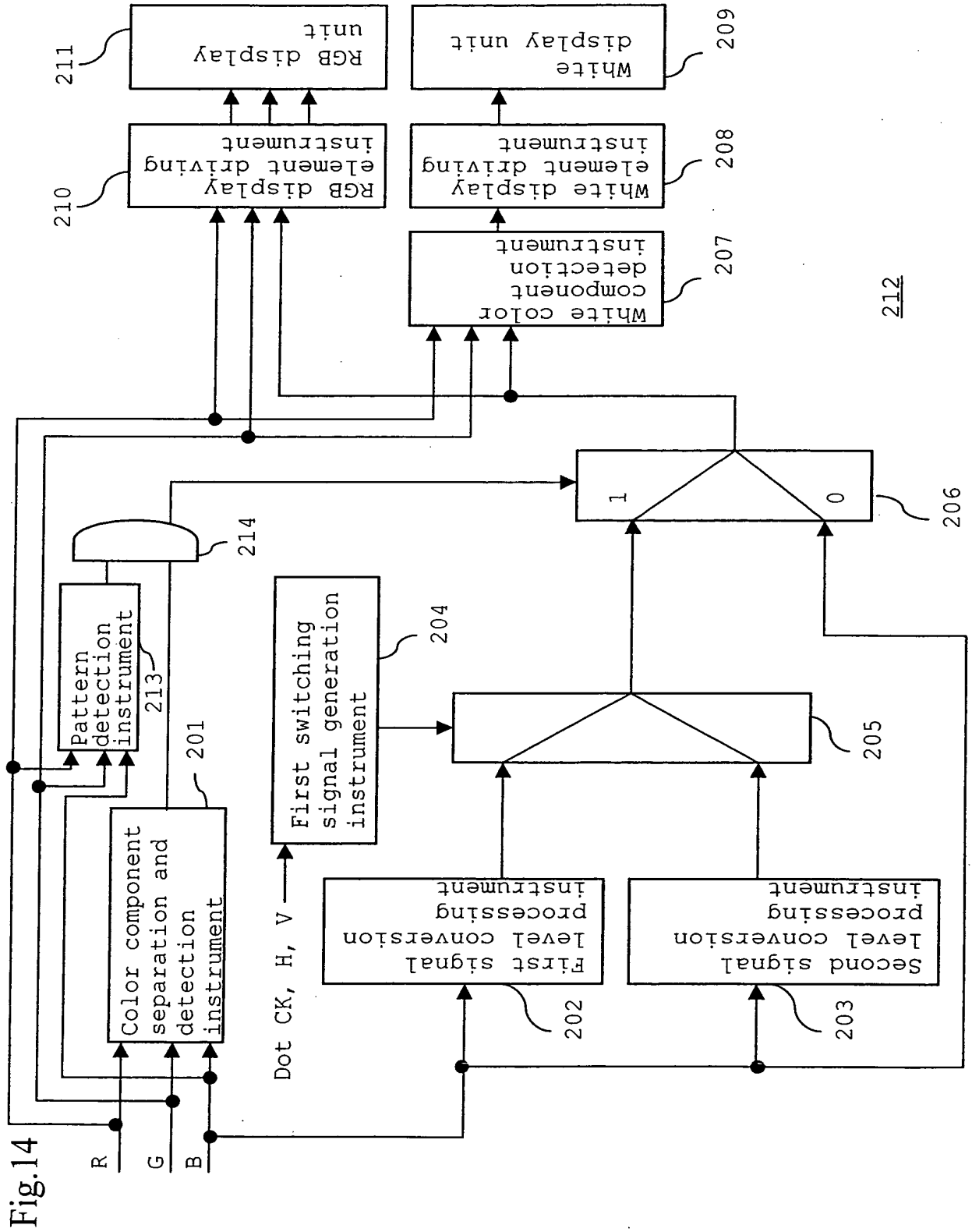
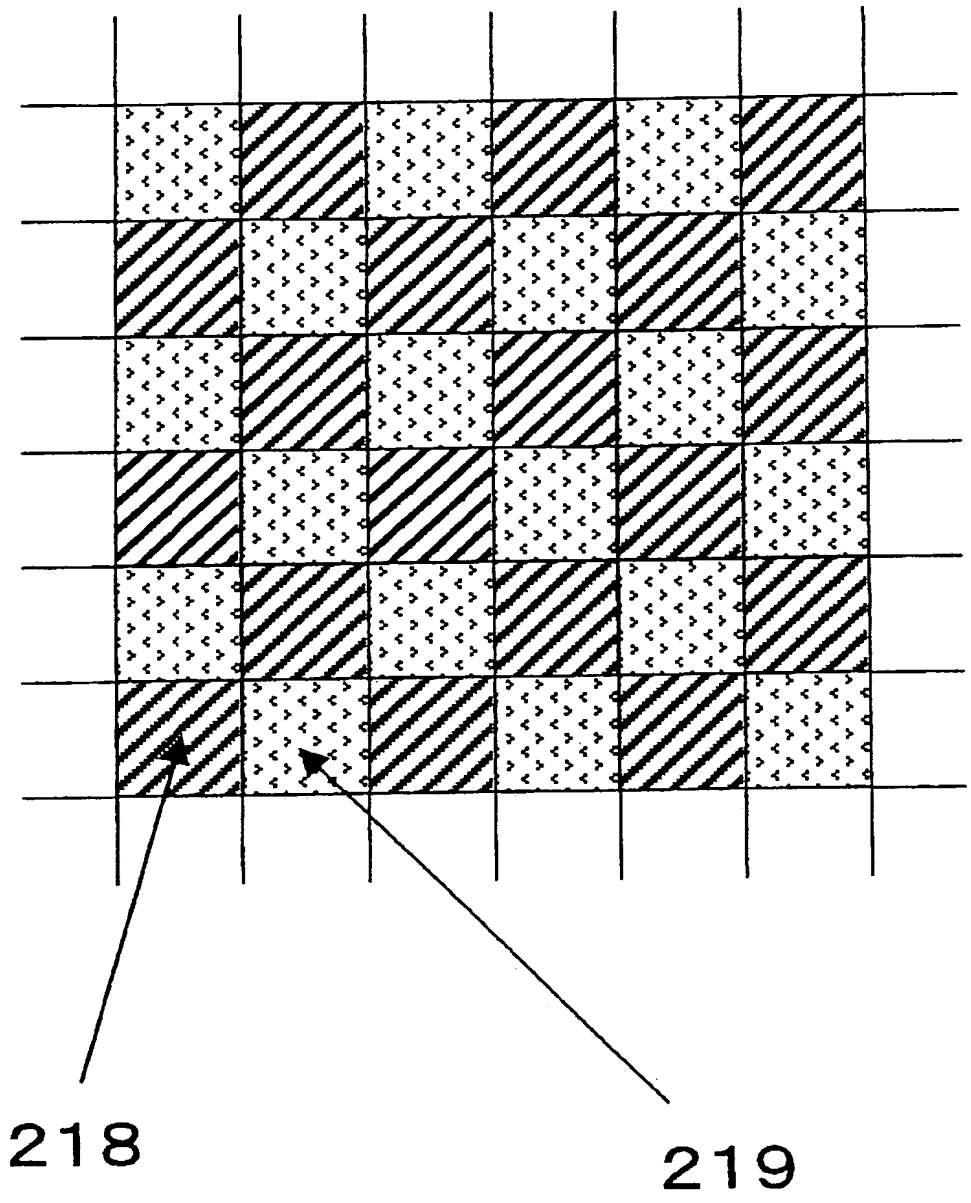

RGB display unit
211
White display unit
209
RGB display element driving instrument
210
White display element driving instrument
208
White color component detection instrument
207
212
1
0
206
214
Pattern detection instrument
213
First switching signal generation instrument
204
205
201
Color component separation and detection instrument
Dot CK, H, V
First signal level conversion processing instrument
202
Second signal level conversion processing instrument
203
R
G
B

Fig.14

Fig.15



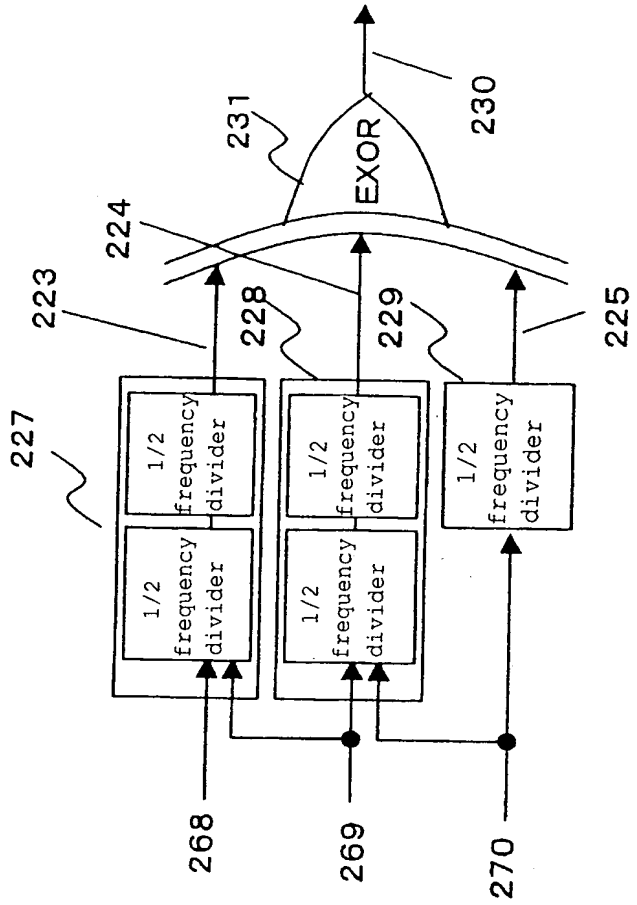


Fig.16(b)

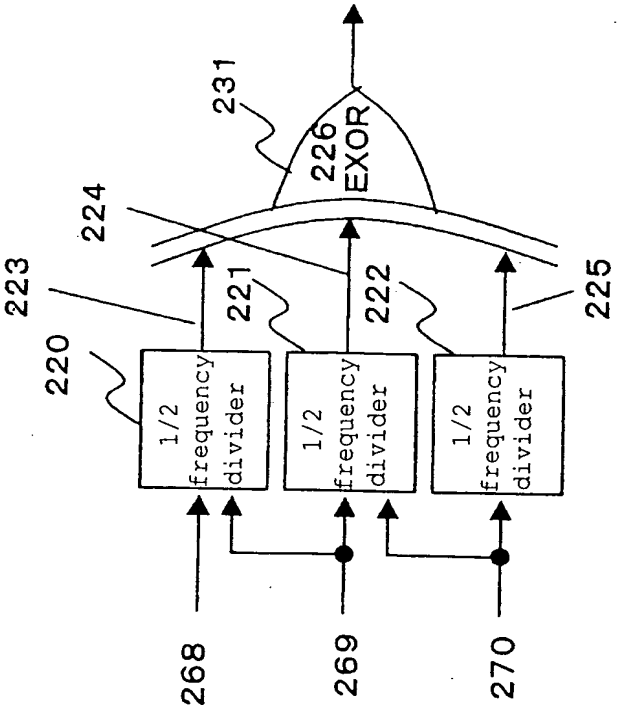
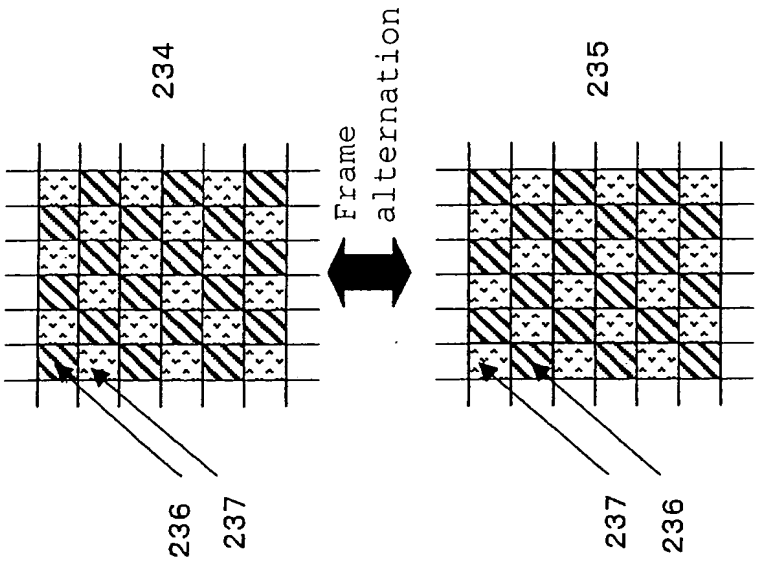


Fig.16(a)



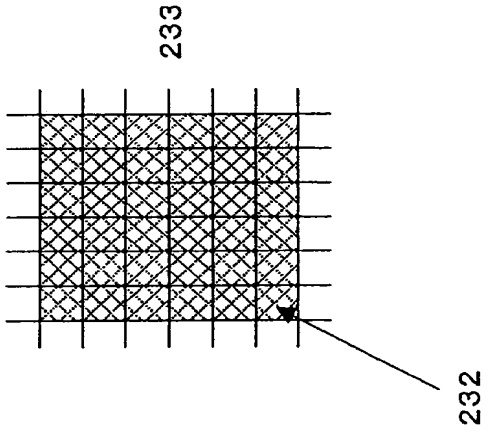


Fig.17

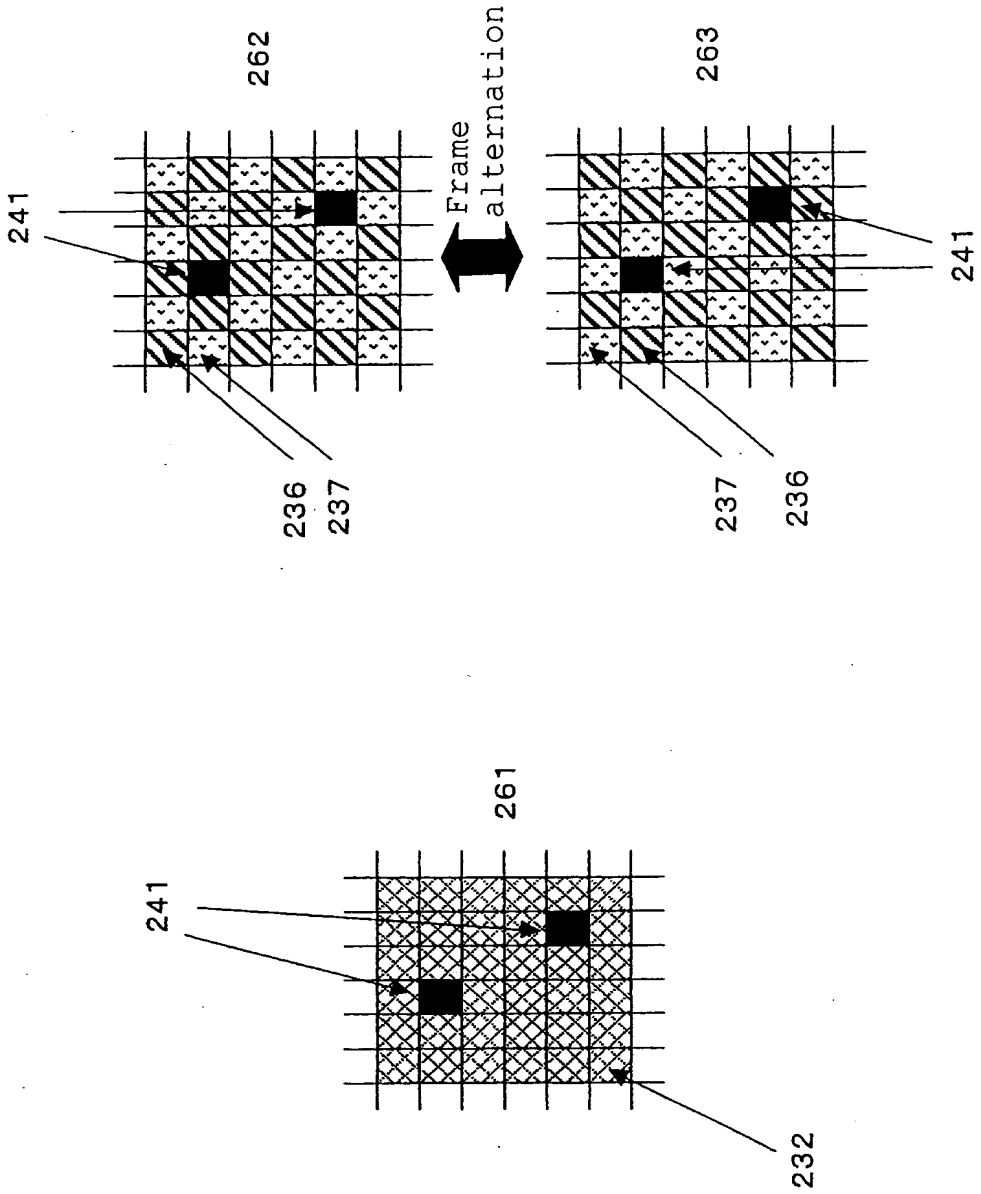
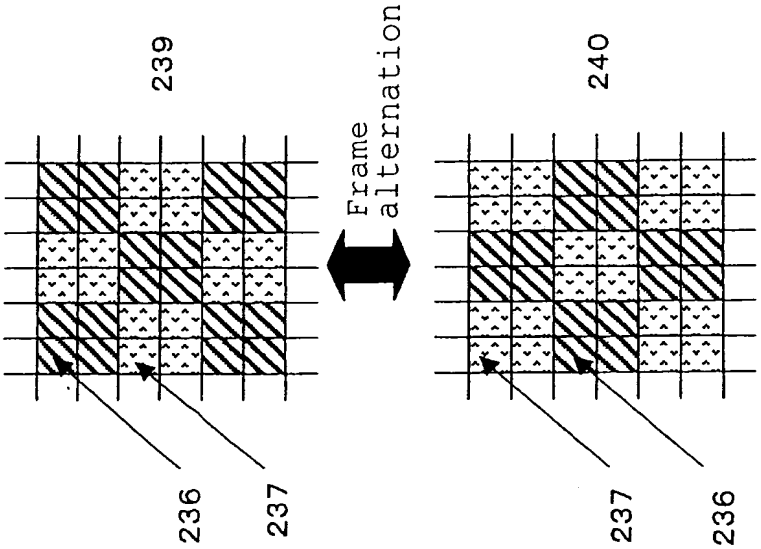


Fig.18



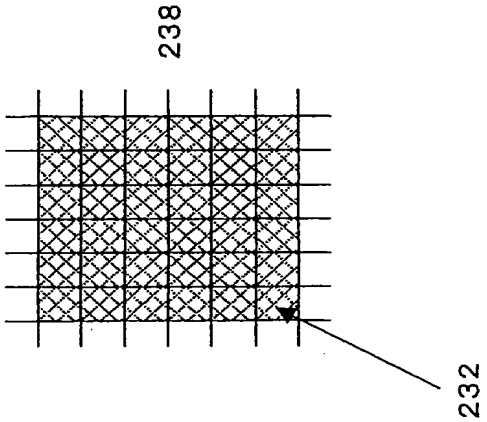
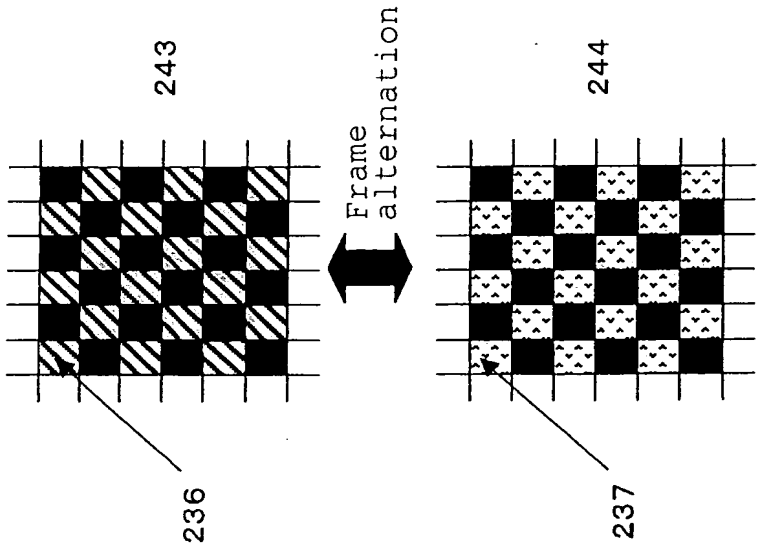


Fig.19



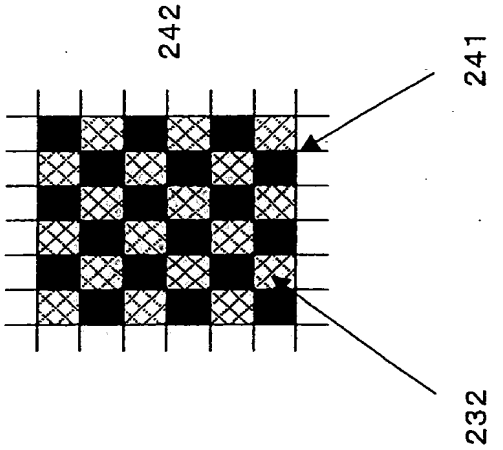
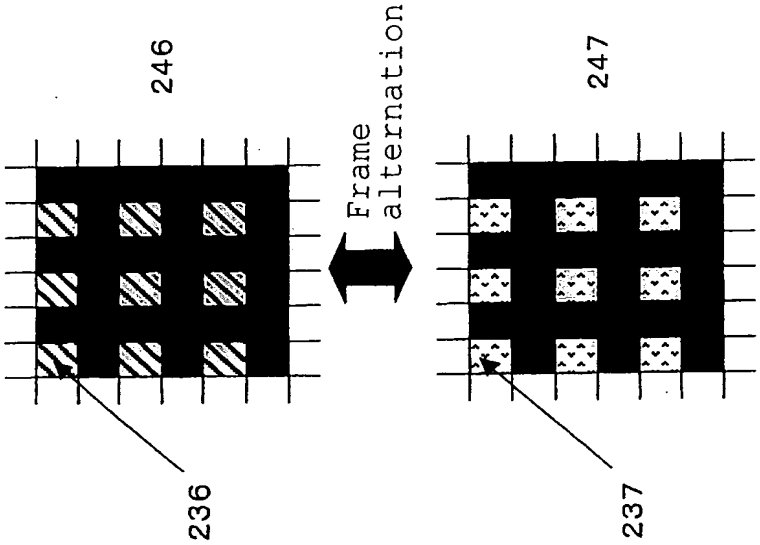


Fig.20

BEST AVAILABLE COPY



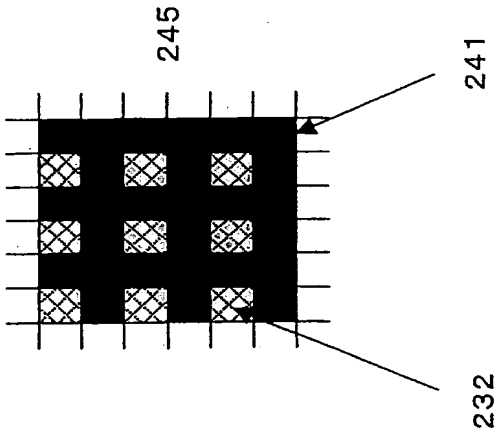


Fig.21

BEST AVAILABLE COPY

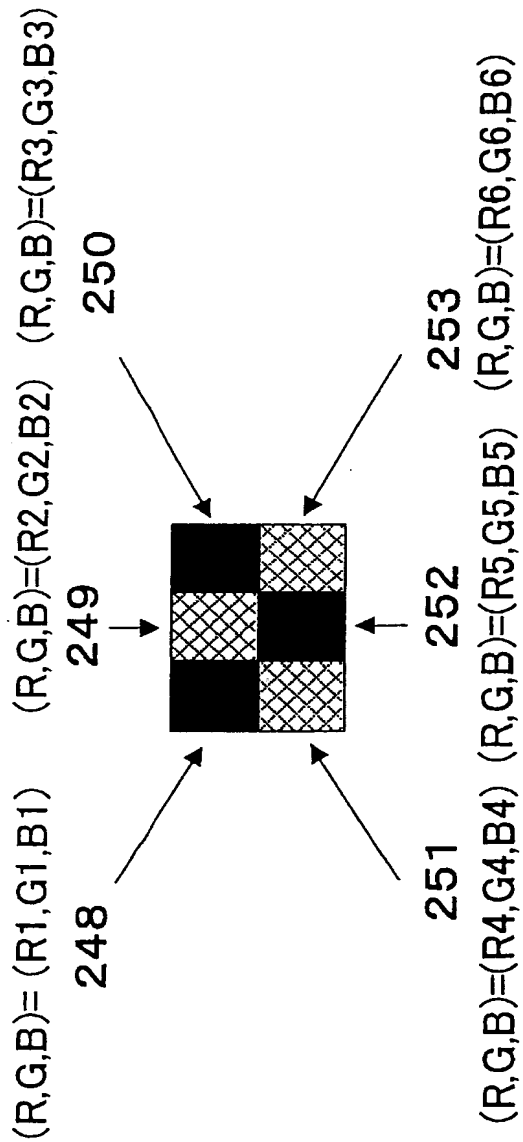

(R,G,B)= (R1,G1,B1)
248
(R,G,B)=(R2,G2,B2)
249
(R,G,B)=(R3,G3,B3)
250
(R,G,B)=(R4,G4,B4)
251
(R,G,B)=(R5,G5,B5)
252
(R,G,B)=(R6,G6,B6)
253

Fig.22

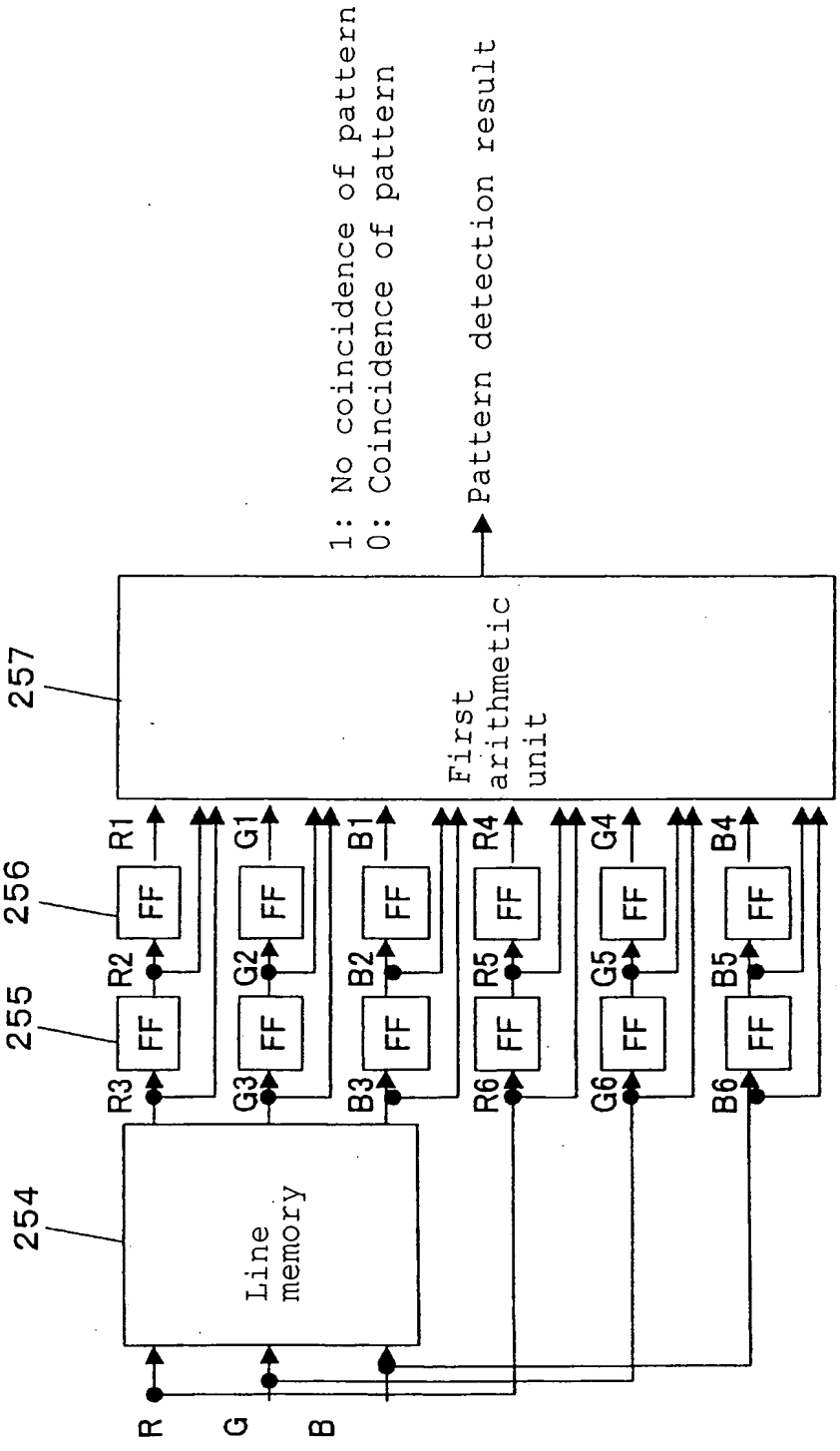
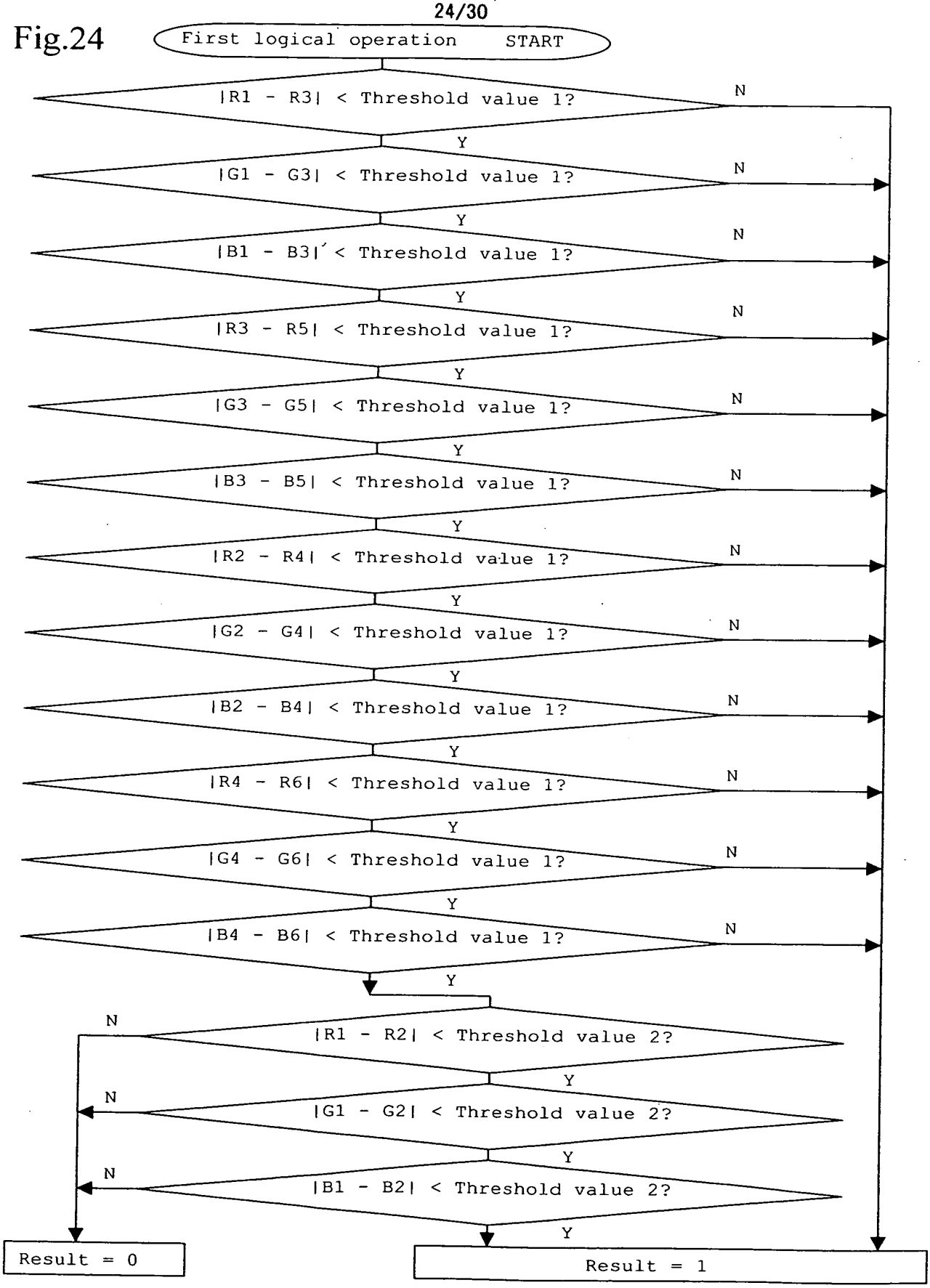

1: No coincidence of pattern
0: Coincidence of pattern
Pattern detection result
213
257
First arithmetic unit
256
255
254
Line memory
FF
R1
R2
R3
G1
G2
G3
B1
B2
B3
R4
R5
R6
G4
G5
G6
B4
B5
B6
R
G
B

Fig.23

Fig.24


First logical operation START
|R1 - R3| < Threshold value 1?
|G1 - G3| < Threshold value 1?
|B1 - B3| < Threshold value 1?
|R3 - R5| < Threshold value 1?
|G3 - G5| < Threshold value 1?
|B3 - B5| < Threshold value 1?
|R2 - R4| < Threshold value 1?
|G2 - G4| < Threshold value 1?
|B2 - B4| < Threshold value 1?
|R4 - R6| < Threshold value 1?
|G4 - G6| < Threshold value 1?
|B4 - B6| < Threshold value 1?
|R1 - R2| < Threshold value 2?
|G1 - G2| < Threshold value 2?
|B1 - B2| < Threshold value 2?
Y
N
Result = 0
Result = 1

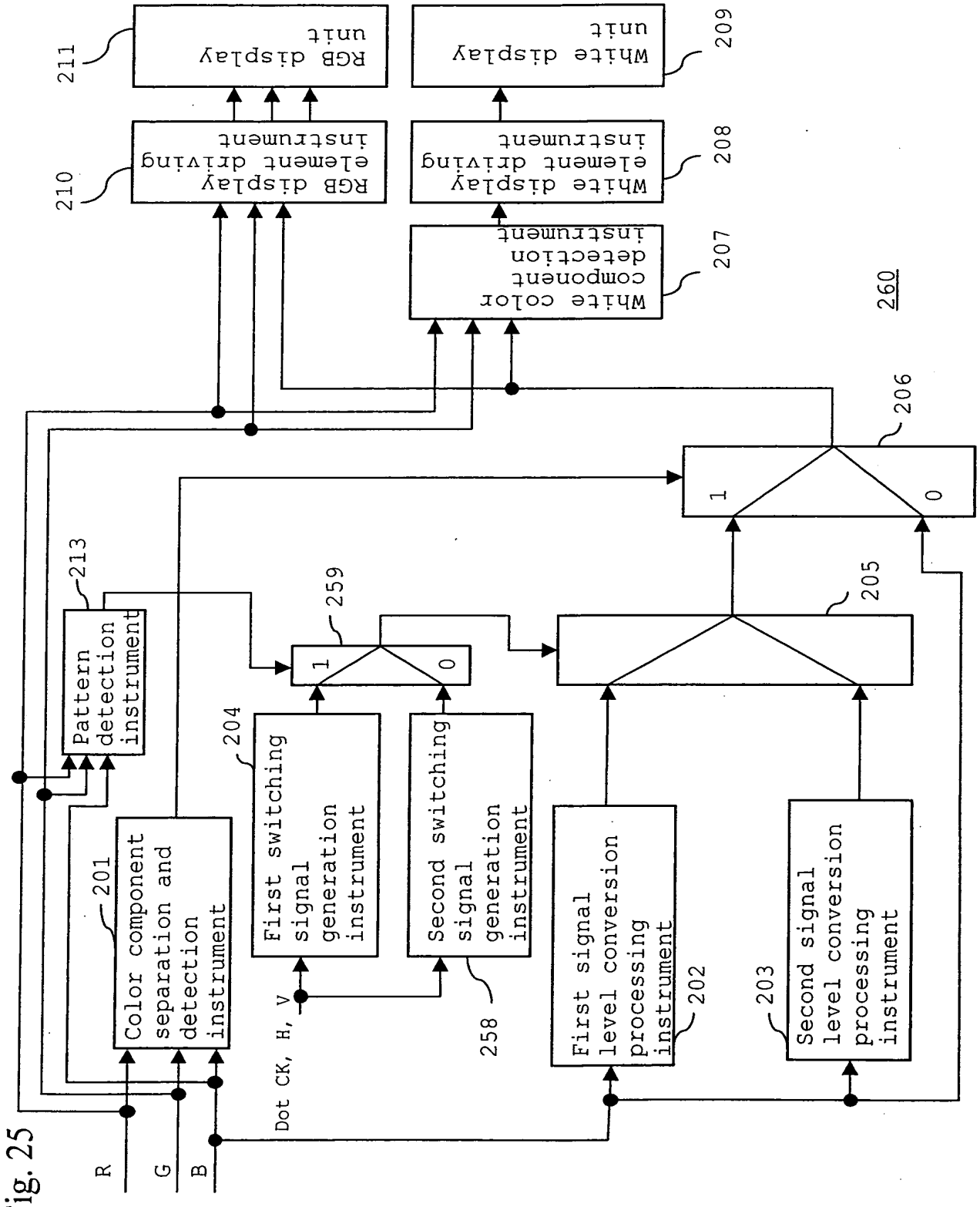

R
G
B
Dot CK, H, V
Color component separation and detection instrument
201
Pattern detection instrument
213
First switching signal generation instrument
204
Second switching signal generation instrument
258
259
1
0
205
First signal level conversion processing instrument
202
Second signal level conversion processing instrument
203
206
1
0
260
White color component detection instrument
207
White display element driving instrument
208
White display unit
209
RGB display element driving instrument
210
RGB display unit
211

Fig. 25

Fig.26

BEST AVAILABLE COPY

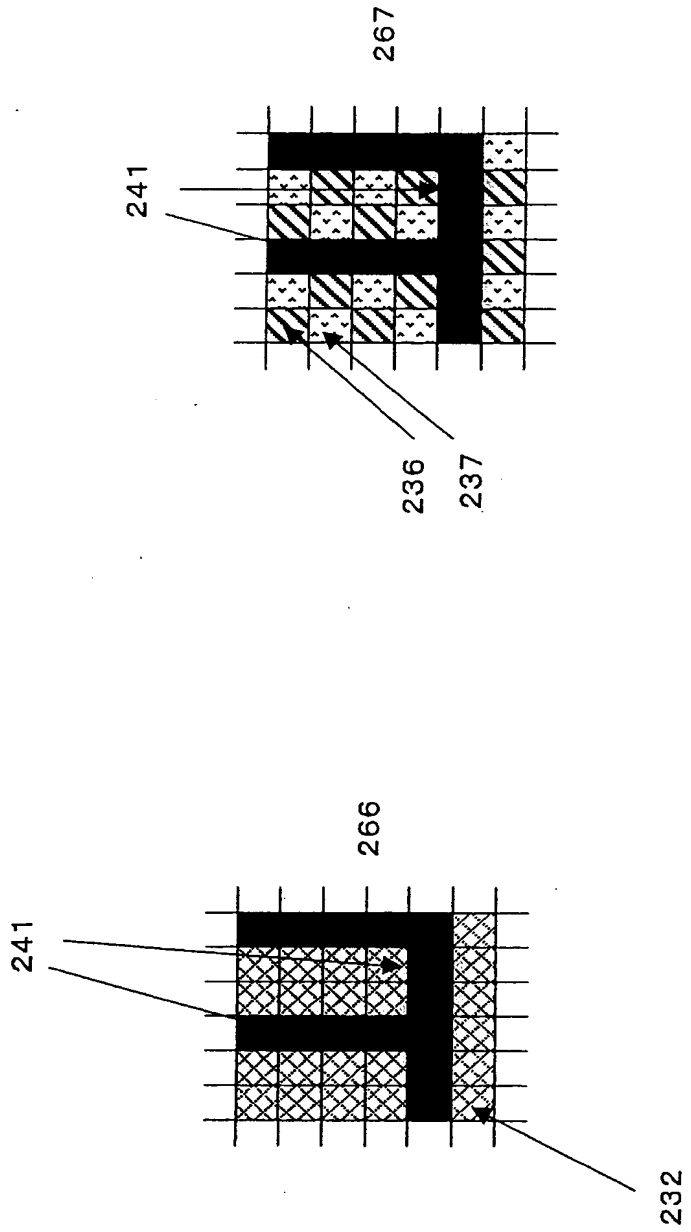


Fig.27

BEST AVAILABLE COPY

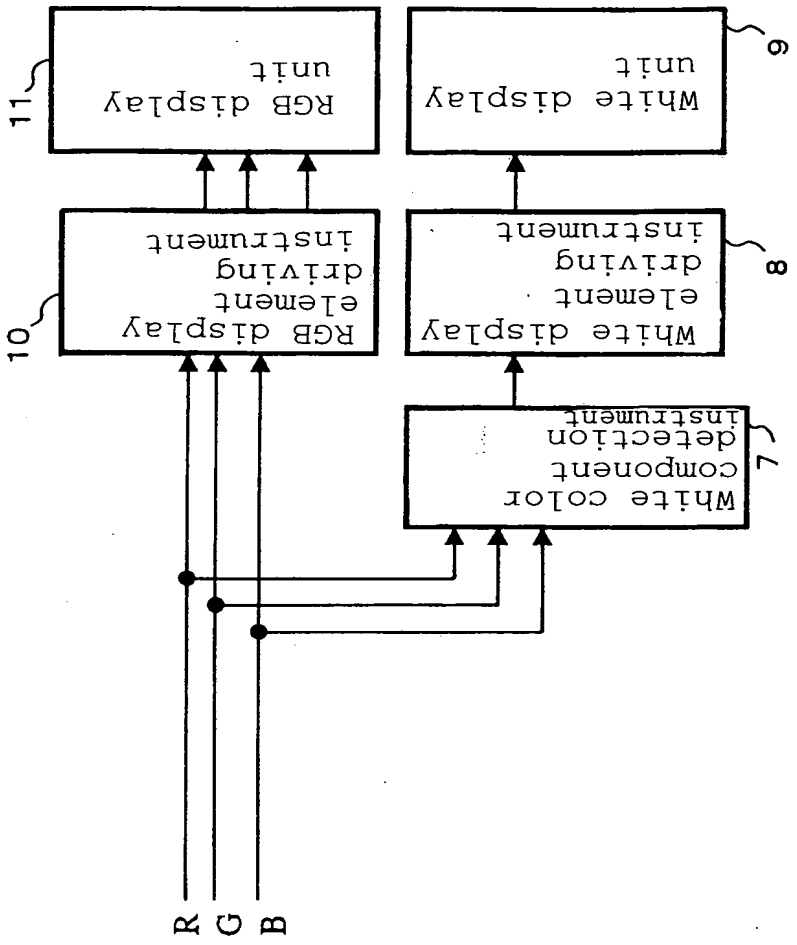

White color component detection instrument
7
White display element driving instrument
8
White display unit
9
RGB display element driving instrument
10
RGB display unit
11
R
G
B
51

Fig.28

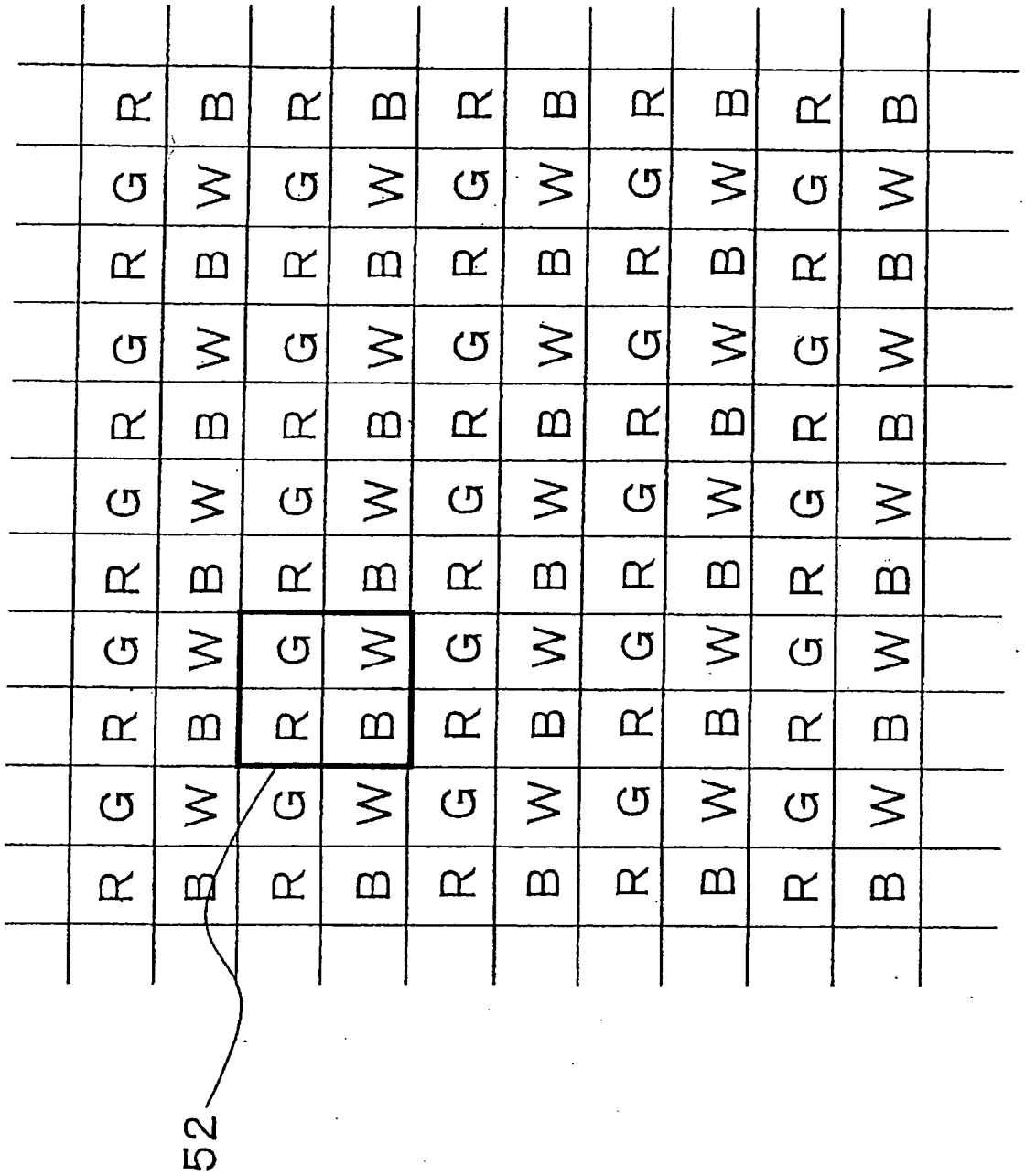

R B R B R B R B R B
G W G W G W G W G W
R B R B R B R B R B
G W G W G W G W G W
R B R B R B R B R B
G W G W G W G W G W
R B R B R B R B R B
G W G W G W G W G W
R B R B R B R B R B
G W G W G W G W G W
R B R B R B R B R B
52

Fig.29

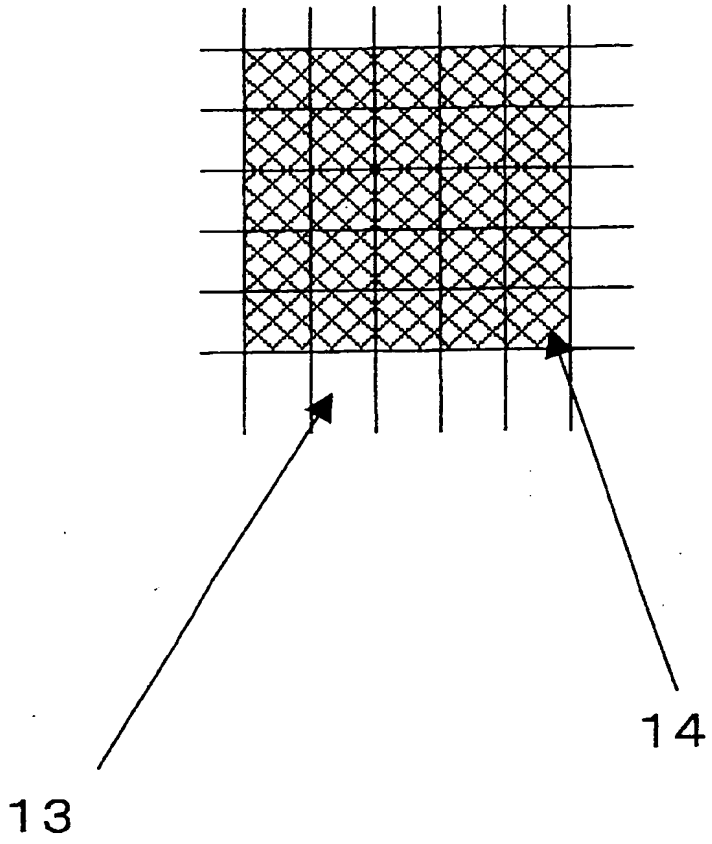



Fig.30